

## PROCEEDINGS OF THE CLUB

WEDNESDAY, JANUARY 28, 1903

The meeting was held at the New York Botanical Garden ; twenty members present ; Dr. Britton in the chair.

The resignations of Mr. John J. Schoonhoven and Miss Rachel W. Farrington were accepted. By vote of the Club, Miss Farrington was placed on the list of corresponding members. The scientific program was then taken up.

The first paper was by Mr. R. S. Williams, entitled "Some Economic Plants of Bolivia." He stated that there are great extremes in temperature in Bolivia, frost occurring in the higher elevations for ten months of the year. Many grasses are found at these elevations. The chief crops for the high lands are barley, wheat, potatoes and *quinoa*, the seeds of a species of the Chenopodiaceae. Many varieties of corn are raised up to 5,000 to 6,000 ft. Beans of many kinds are also grown. Rice is the principal grain in the tropical regions. Sugar cane grows up to 4,000 ft. and there are large fields of it everywhere. It is crushed by passing the stalks back and forth between rollers turned by oxen. The fruits of the lower country are lemons, oranges, bananas, *papaya*, *cherrimoya*, *granadilla* and others. A species of sorrel, *Oxalis tuberosa*, is largely cultivated. The tubers are eaten as a vegetable. Tomatoes are raised, but they are poor and small. Peppers are in great variety, and are much used. Coffee is grown up to 5,000 ft. A fine quality is produced but distance from market prevents its export. There are no wild fruits or nuts of value in the region visited.

The people of the higher regions, the Aymara, live principally on meat. They are larger and darker-colored than the lowland tribes, the Quit chua, and are different in habits.

The paper was discussed by Dr. Britton, Professor Selby and others.

The second paper was by F. S. Earle entitled "Remarks on the Fungus Flora of Jamaica." He gave a brief account of the topography and climate of the island. There have been some

five or six papers on Jamaica fungi, beginning with Patrick Browne in 1755, but the total number known from the island is so far less than a hundred species. About five hundred numbers were taken by the speaker during his recent visit to the island. Of these nearly one half belonged to the Polyporaceae. About one hundred were Agaricaceae, over thirty Thelephoraceae, but only three Hydnaceae. Of the Pyrenomycetes over one half belonged to the Xylariaceae. Of rusts (Uredinales) there were only twelve. Quite unexpectedly, the conidial stages of the powdery mildews (Erysiphaceae) were fairly abundant, but in no case were perithecia found.

As a rule, fungi are more abundant at the lower elevations and in the drier parts of the island. In the moist mountain woods where the conditions are most favorable for the growth of ferns, fungi are not abundant. Some saprophytes were found in such locations but parasites were almost entirely absent.

Mr. Nash exhibited a living flowering specimen of a new species of *Pitcairnia* collected by Dr. Britton in St. Kitts. Among its more prominent characters were the absence of spines and the conspicuous whitening of the under side of the leaves.

Dr. Britton described the finding of this plant at the summit of Mt. Misery, on the rim of an extinct crater. It was growing in a deep carpet of moss and was associated with other bromeliads including *Pitcairnia alta*, a spiny species, and an undescribed *Tillandsia*.

Dr. Howe was now called to the chair and Dr. Britton presented the following resolutions on the recent death of Dr. Timothy F. Allen :

*Resolved*, That in the death of Dr. Timothy F. Allen, for many years one of its Vice-Presidents, and one of its original incorporators, the Torrey Botanical Club and the science of botany have experienced a serious loss.

*Resolved*, That the sincere sympathy of the Club be and is hereby extended to the family of Dr. Allen.

*Resolved*, That a copy of these resolutions be spread upon the minutes of the Club, and that they be printed in TORREYA.

The above resolutions were accepted and adopted.

F. S. EARLE,  
Secretary.

TUESDAY, FEBRUARY 10, 1903

The meeting was held at the College of Pharmacy ; in the absence of the President and Vice-Presidents, Dr. Lighthipe was called to the chair ; sixteen members were present.

The following persons were elected as active members :

Dr. J. C. Arthur, Lafayette, Ind.

Professor Melville T. Cooke, Greencastle, Ind.

Mrs. Elizabeth B. Davenport, Brattleboro, Vt.

The paper of the evening was by Mr. Eugene Smith, entitled "Remarks on Aquatic Plants."

The speaker exhibited a number of specimens of marsh and aquatic plants. The distinction between the two is not sharply drawn, but the true aquatics pass their entire life under water or at most produce only their flowers and fruit at the surface. The flowers of true aquatics are never showy. Marsh and aquatic vegetation includes many diverse elements from a systematic standpoint, including representatives from the lowest to the highest families. Algae are of course almost exclusively aquatic and constitute a great part of the underwater vegetation. The bryophytes are represented by many species, some of which are truly aquatic. The pteridophytes have a few aquatic and semi-aquatic members. The Naiadaceae and Valisneriaceae are the most important families of flowering plants that are wholly aquatic. Many others include aquatic species, but they become fewer in the Gamopetalae.

Few species of flowering plants are able to live in brackish or salt water. Methods of pollination are often interesting, as in *Valisneria*, where the staminate spathes are on short stalks near the bottom and at maturity break away, carrying the pollen to the surface, where the pistillate spathes are borne on long peduncles. These after pollination coil up so that the fruits ripen near the bottom. With water plants that have both submerged and floating leaves there is usually a marked difference of form between the two. The tissues of aquatics are usually soft and flaccid. The plants being supported by the water do not need to develop hard woody tissues for mechanical support.

In the neighborhood of a body of water four categories of

plants can usually be distinguished, though the dividing lines are often not sharply drawn. These are, first, the swamp or marsh plants that are only partly submerged. Second, those that root in the bottom but with floating leaves. Third, those that are attached to the bottom but live wholly submerged and fourth, those that are free, either floating or submerged. The last group includes the vegetable part of the plankton.

The study of aquatic plants has been much neglected. The waters of tropical regions in particular afford almost a new field for exploration and study.

The paper was discussed by Dr. Howe, Dr. Barnhart and various other members.

F. S. EARLE,

*Secretary.*

#### NEWS ITEMS

We learn from *Science* that Professor Bruce Fink, of the Upper Iowa University, has accepted the chair of botany at Iowa College and will assume his new duties in September.

Mr. J. Burt Davy, recently of the University of California, has been appointed state agrostologist and botanist of the Transvaal. He sailed for South Africa from New York on March 10, going by way of England.

Mr. A. A. Heller, who returned a few weeks ago from his third botanical expedition to Porto Rico, has now gone to California. Pacific Grove, Monterey County, will be the base for his collecting operations for a time.

Dr. and Mrs. N. L. Britton, of the New York Botanical Garden, and Mr. J. A. Shafer, custodian of the herbarium of the Carnegie Museum at Pittsburg, left New York on March 5 for Havana. They plan to devote a few weeks to botanical collecting in Cuba.

Professor F. S. Earle, of the New York Botanical Garden, and Mr. E. W. D. Holway, of Decorah, Iowa, sailed from New York on February 26, for Santiago, Cuba, where they were expecting to meet Professor Underwood, who has been for some weeks in Jamaica. The party intends to spend several weeks in making collections and field studies in eastern Cuba.